

Roadbed Materials



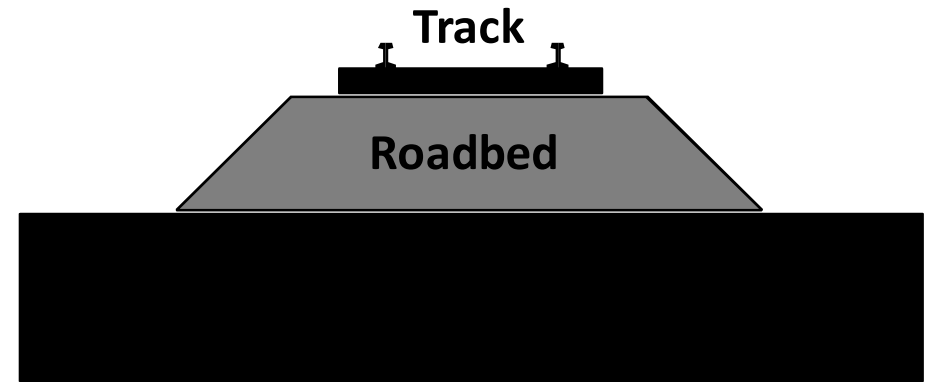
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Nomenclature



Roadbed Purposes
or Functions?



Roadbed Functions

- Smooth support for track
- Provide the ballast contour
- Hold track nails, spikes and/or glue
- Sound deadening
- Others?



Roadbed Materials

- How many ways to construct roadbeds for model railroads?
- Can you believe at least 18 !
- What types of categories?
- How do you decide which to use?
- What cross section dimensions?



Types of Roadbeds

Commercial Roadbed Products

- Bendable Materials
- Rigid Materials

Make It Yourself Roadbeds

- Bendable Materials
- Rigid Materials

Other Methods

- Integral w/ Subroadbed



Commercial Roadbeds

Bendable

Cork Strips	Midwest, etc.
Flexxbed (Vinylbed) Strips	Vinyl Dense Foam
Woodland Scenics Track-Bed	Sponge Foam

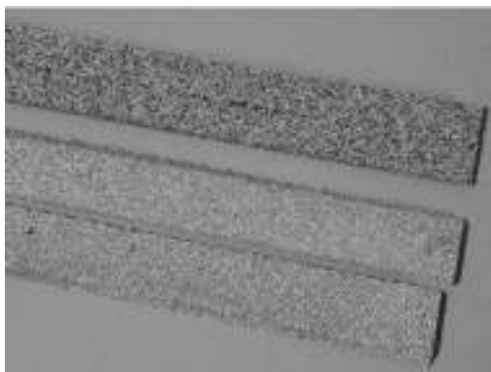
Rigid

Homabed (Ca. Roadbed Co.)	Pressed Paper Fibers
Tru-Scale (Trout Creek)	Milled Basswood w/ Ties
Bachmann Easy-Track	Injection Molded Plastic

- All pre-formed, with beveled edges

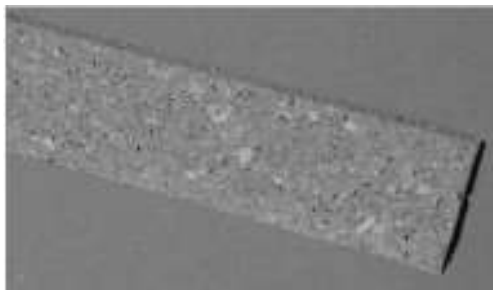


Commercial Roadbeds



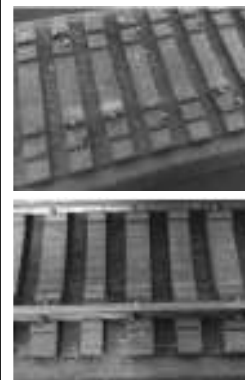
Cork

Track-Bed



Flexxbed

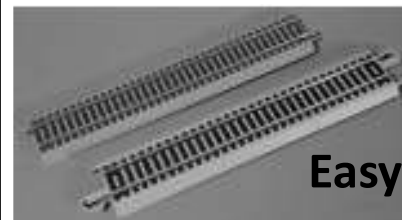
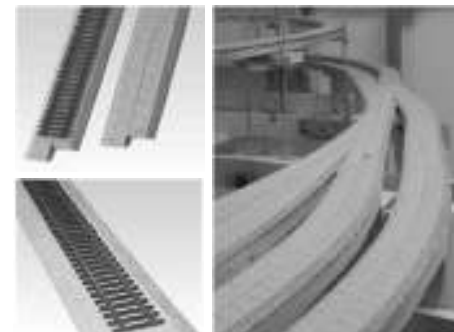
Commercial Roadbeds



Tru-Scale



Homabed



Easy-Track

Make It Yourself Roadbeds

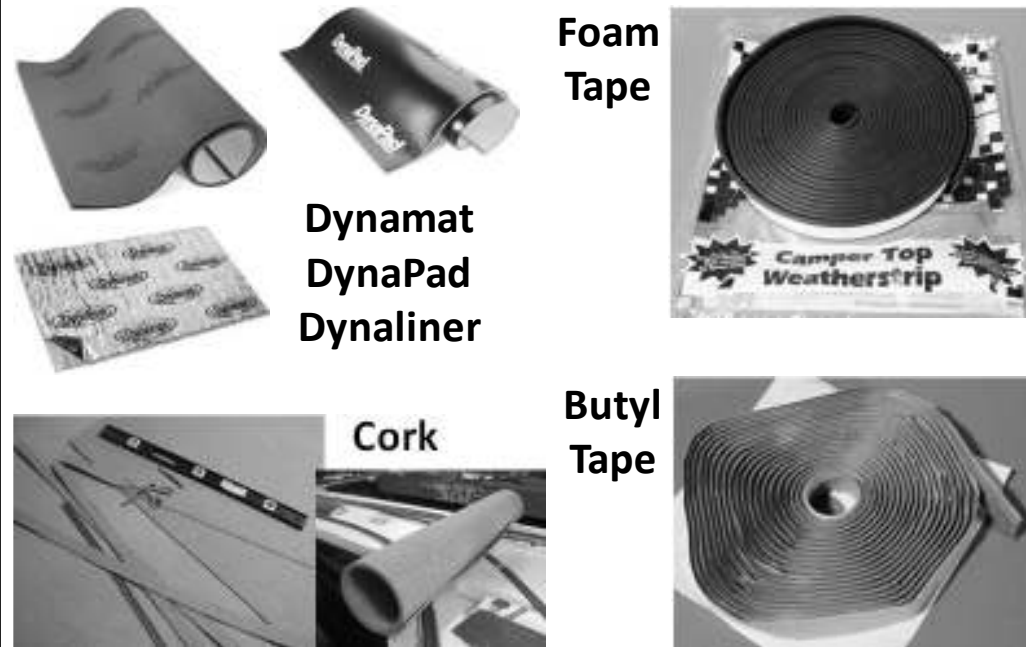
Bendable

Cork Strips – from sheets	Flooring Product
EasyMat Strips – from sheets	PP/PVC Tile Underlayment
Foam Tape – truck cap/RV	Sponge Foam or Rubber
Butyl Tape – Aerotape, etc.	Butyl Rubber
Dynamat – car insulation	Butyl Rubber

- Form roadbeds by slitting sheets or wide strips



Make It Yourself Roadbeds



Make It Yourself Roadbeds

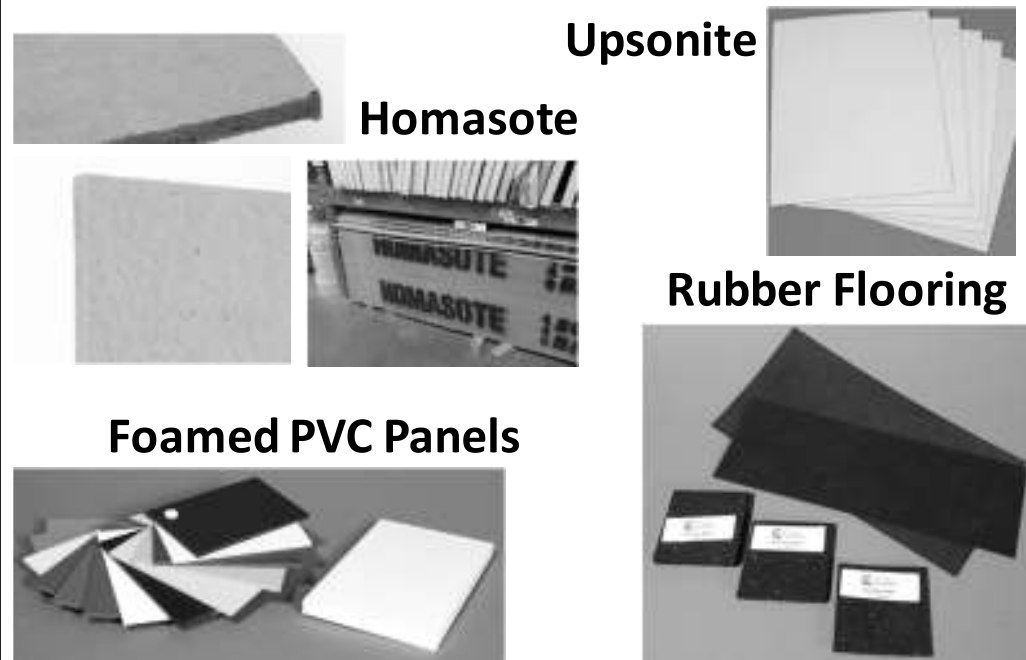
Rigid

Upron Board	High Density Cardboard
Homasote Board	Pressed Paper Fibers
Expanded PVC Sheets	“Foamed” PVC Plastic
Rigid Rubber Flooring	Recycled Rubber Sheets
Foamboard or Gatorboard	Polystyrene Foam Core

- Cut or saw to form straight strips
- Cookie-cut or kerf (except PVC) to get curves



Make It Yourself Roadbeds



Other Roadbed Methods

Integral Methods

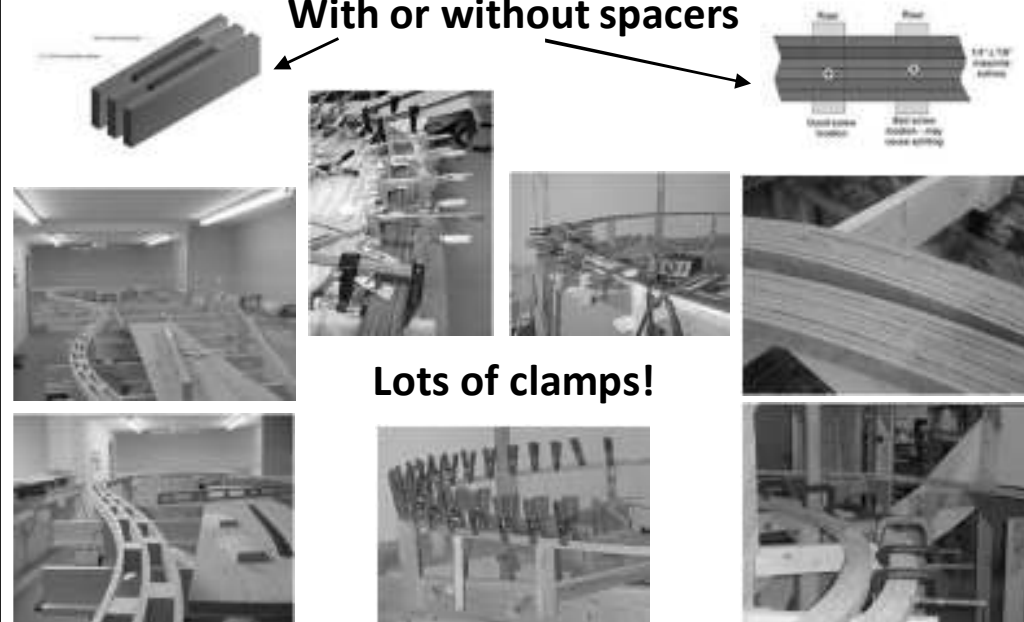
Spline	Homasote, Hardboard or Wood
Precision Carved Foam	Hot Wire Cut Foamboard

- Both integral with sub-roadbed



Spline Roadbeds

With or without spacers



Evaluation Criteria

Ease of Fabrication/Installation

Performance/Durability

- Ability to hold spikes or nails
- Stiff vs. spongy track support
- Stability over time (aging, ozing)
- Appearance

Cost



Commercial Options

Bendable	\$/ft	Pros	Cons
Cork	0.37	easy, traditional, firm	brittle, organic
Flexxbed	0.70	inert, solid, 1 piece	2X cost cork
Track-Bed	0.29	inert	too spongy

Rigid	\$/ft	Pros	Cons
Homabed	0.80	pre-made, spike hold	cost
Tru-Scale	2.23	pre-made, self-gauge	cost, turnout 2X+ \$s
Easy-Track	4.43	pre-made, w/ track	cost, appearance

- Cork best overall commercial option
- Flexxbed and Homabed next best options



Make It Yourself Options

\$/ft Pros Cons

Cork Strips	0.12	lowest cost	brittle, hard to slit
EasyMat Strips	0.22	self stick, inert, firm	must slit yourself
Foam Tape	0.54	self stick, easy curve	too spongy
Butyl Tape	1.60	self stick, easy curve	cost, oozing?
Dynamat	1.78	self stick, easy cut	cost, too thin, ooze?
Upson Board	0.18	spike holding	scrap, rigid, cutting
Homasote Brd	0.26	spike holding	scrap, rigid, cutting
PVC Sheets	0.24	no sawdust	scrap, hard to cut
Rubber Mats	0.28	sound deadening	scrap, hard to cut
Foamboard	0.25	easy cut straights	scrap, crush, water
Gatorboard	0.72	easy straights, inert	cost, scrap, cutting

EasyMat best, if easy to slit



Other Roadbed Methods

\$/ft Pros Cons

Spline	0.39	smooth track	difficult, time
Carved Foam	0?	cost, smooth track	difficult, spike hold

- Both integral with sub-roadbed
- Both require special skills and tools, and both difficult to change once made



Head to Head Comparisons

\$/ft Pros Cons

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- EasyMat Strips best, if slitting easy
- Upson & Homasote best as sub-roadbed



Best-of-Best Comparisons

\$/ft Pros Cons

Commercial

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Make It Yourself

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EasyMat



What is it?

- PP foam beads bonded with PVC
- 1 side black adhesive & release paper
- Made for tile/stone underlayment
- 5mm thick (3/16") in 10' x 4' rolls
- Order at Home Depot for about \$56
- 3mm (1/8") & 12mm (1/2") also made by Custom Building Products

How slit to make roadbeds?



Model Railroader Article

Jim Richards, Oct 2010



Make your own roadbed

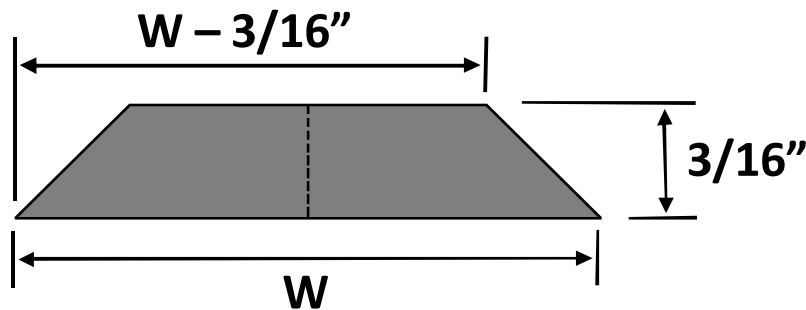
During the construction of a model railroad, one of the most important tasks is to build a roadbed. A roadbed is the base on which the tracks are laid, and it is essential for the stability and longevity of the layout. In this article, we will show you how to make your own roadbed using EasyMat, a lightweight and durable material that is perfect for the job.

EasyMat is a polypropylene foam material that is bonded with PVC. It is 5mm thick and comes in 10' x 4' rolls. It is designed for use as an underlayment for tile and stone, but it is also perfect for use as a roadbed material. The material is easy to cut and install, and it provides a smooth and level surface for the tracks.

To make your own roadbed, you will need a utility blade sled and some spacer blocks. The utility blade sled is used to cut the EasyMat into strips of the desired width. The spacer blocks are used to hold the strips in place while they are being glued together. The roadbed is then finished with a layer of sand or ballast.



HO Roadbed Dimensions



1-15/16" Midwest Cork

1-3/4" Flexxbed

~1-5/8" Homabed

2-1/8" article

We used
W = 1-7/8"



EasyMat Slitting Setup

Slit with Utility Blade Sleds

- One with 90° blade (vertical cuts)
- One with 45° blade (bevel cuts)
- Spacer blocks and long straight edge

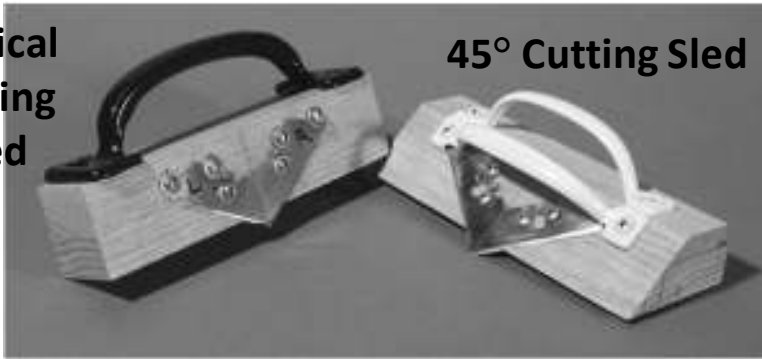
Our improvements

- Bi-directional sleds (2 blades each)
- Zero trim scrap
- One half strip up, other down



Slitting Tools

Vertical Cutting Sled



45° Cutting Sled

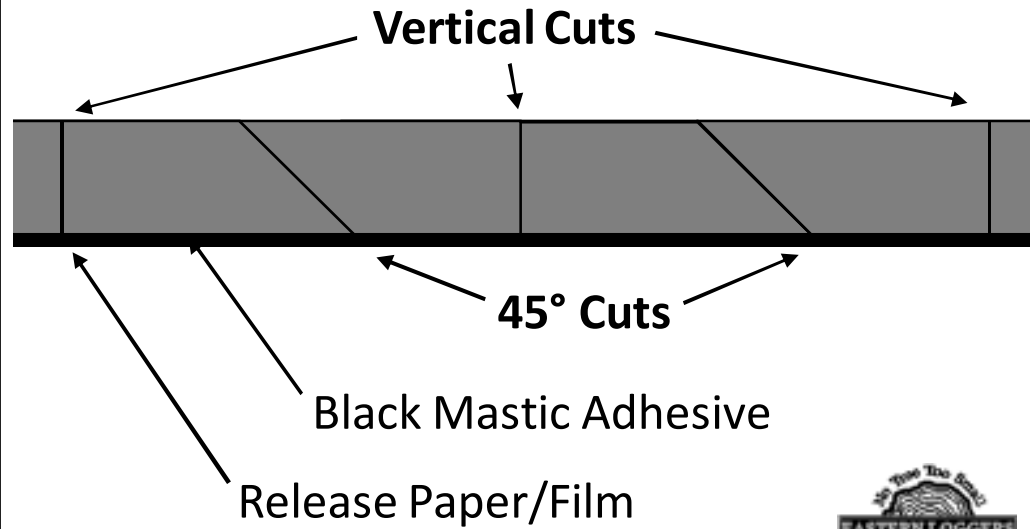
Vertical Cut Spacer Blocks



45° Cut Spacer Blocks

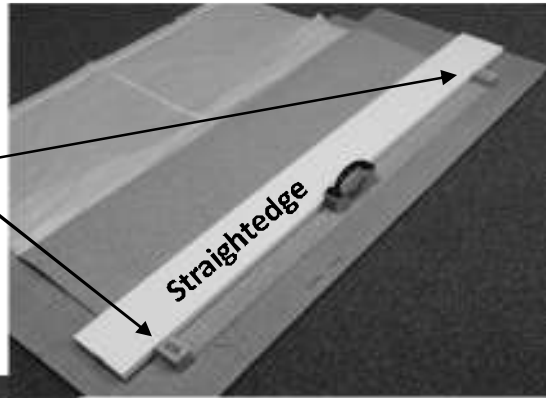


Alternate Roadbed Cuts

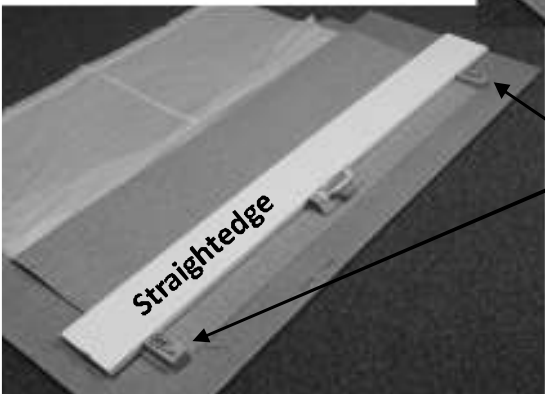


Slitting Jig

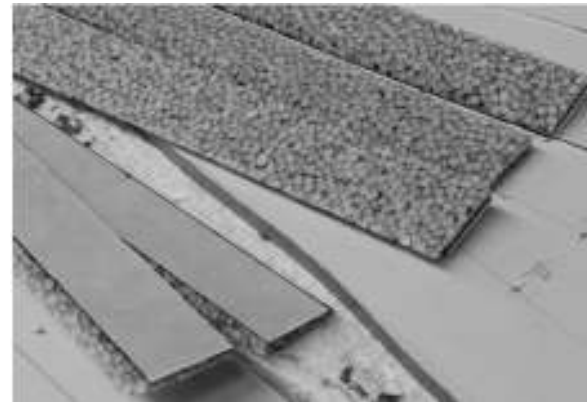
Use one set of spacers for vertical cuts



Use other set of spacers for 45° cuts



Roadbed Laying Ingredients



EasyMat Slit Strips

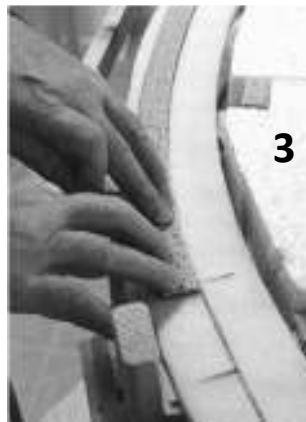
3M or Loctite Spray Adhesives
EasyMat Surface Bond Primer



Track Laying



Roadbed Application



Track Nailing Tips

- Use finish head brads to hide nail
- Metal rod is better nail set tool

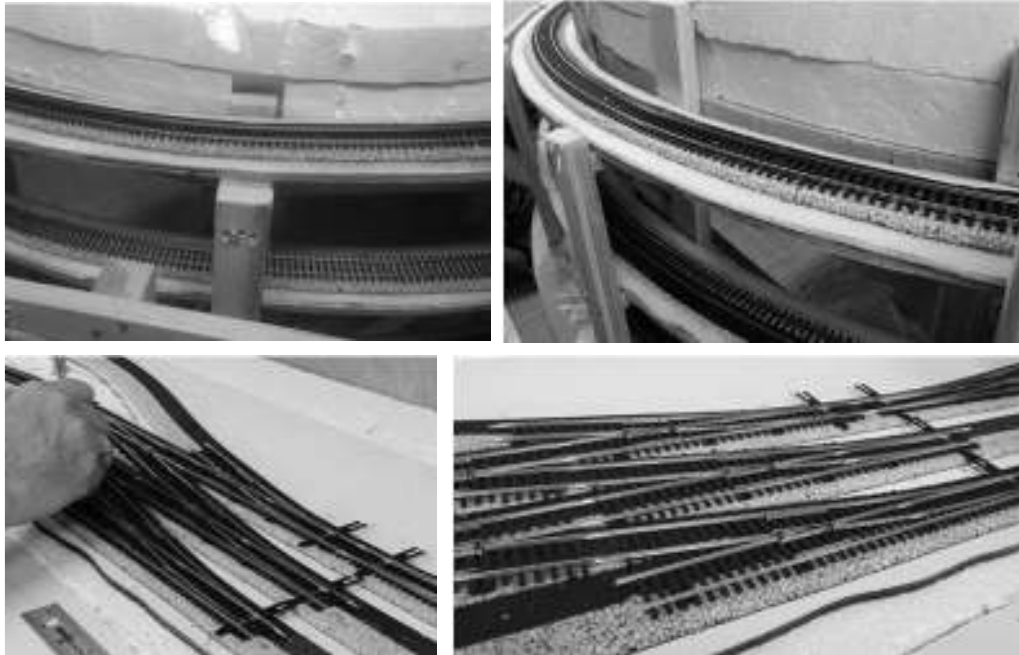


Track Nailing Tips

- Drill nail holes to match head size
- Use small screwdriver to raise tie



End Result



EasyMat Advantages

- Low Cost (about half cost of cork)
- Zero trim scrap
- Inert material (stability over time)
- Self adhesive on 1 side
- Automatic track laying centerline
- Quick/Easy to slit once sleds made
- Works for all scales and track widths
 - 3 thicknesses (1/8", 3/16", 1/2")
 - Vary spacer block lengths

